

CLAIMS

What is claimed is:

- 5 1. A method of sorting undifferentiated cells, wherein said method comprises contacting undifferentiated cells with an antibody to a cell-surface antigen, and sorting the undifferentiated cells according to the presence or absence of the binding to the antibody.
- 10 2. The method of claim 1, wherein the cell-surface antigen is selected from the group consisting of PECAM-1, SSEA-1, SSEA-3, and SSEA-4.
3. The method of claim 1, wherein the undifferentiated cells are embryonic stem (ES) cells derived from mammals or embryonic germ (EG) cells derived from
15 mammals.
4. The method of claim 1, wherein the undifferentiated cells are transgenic.
5. The method of claim 2, wherein undifferentiated cells that bind to antibody to
20 PECAM-1 is sorted out.
6. The method of claim 5, wherein undifferentiated cells that bind to both an antibody to PECAM-1 and an antibody to SSEA-1 are sorted out.
- 25 7. The method of claim 5, wherein undifferentiated cells that bind to an antibody to PECAM-1, an antibody to SSEA-3, and an antibody to SSEA-4 are sorted out.
8. An undifferentiated cell obtained by the method of any one of claims 5, 6, and
30 7.

9. An isolated undifferentiated cell binding to an antibody to PECAM-1.
10. An isolated undifferentiated cell binding to an antibody to PECAM-1 and an
5 antibody to SSEA-1.
11. An isolated undifferentiated cell binding to an antibody to PECAM-1, an
antibody to SSEA-3, and an antibody to SSEA-4.
- 10 12. A host embryo comprising the undifferentiated cell of claim 8.
13. The embryo of claim 12, wherein the embryo is constructed by injection of the
undifferentiated cell of claim 8 into a fertilized embryo, or aggregation of that
undifferentiated cell with a fertilized embryo.
- 15 14. The embryo of claim 12, wherein said embryo is constructed by injection or
fusion of the undifferentiated cell of claim 8 to an enucleated unfertilized
oocyte.
- 20 15. A differentiated tissue complex derived from the undifferentiated cell of claim
8.
16. The differentiated tissue complex of claim 15, wherein said complex is
constructed by inducing differentiation by *in vitro* culture or *in vivo*
25 transplantation of the undifferentiated cell of claim 8.
17. A surrogate mother comprising the embryo of claim 12.
18. A fetus, baby, or descendants obtained from the surrogate mother of claim 17.